ArgoNeuT Update

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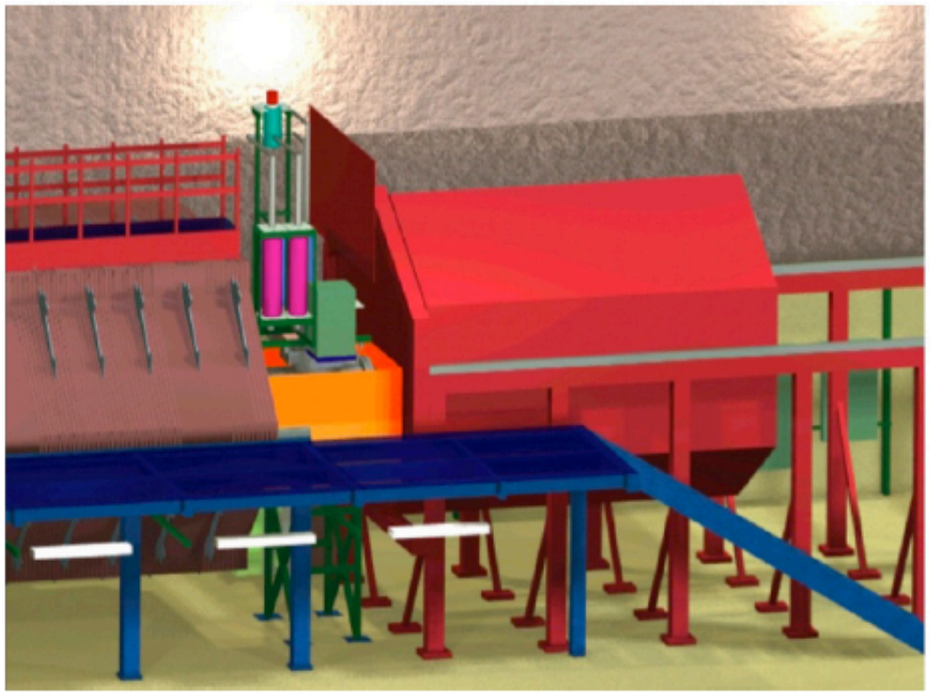
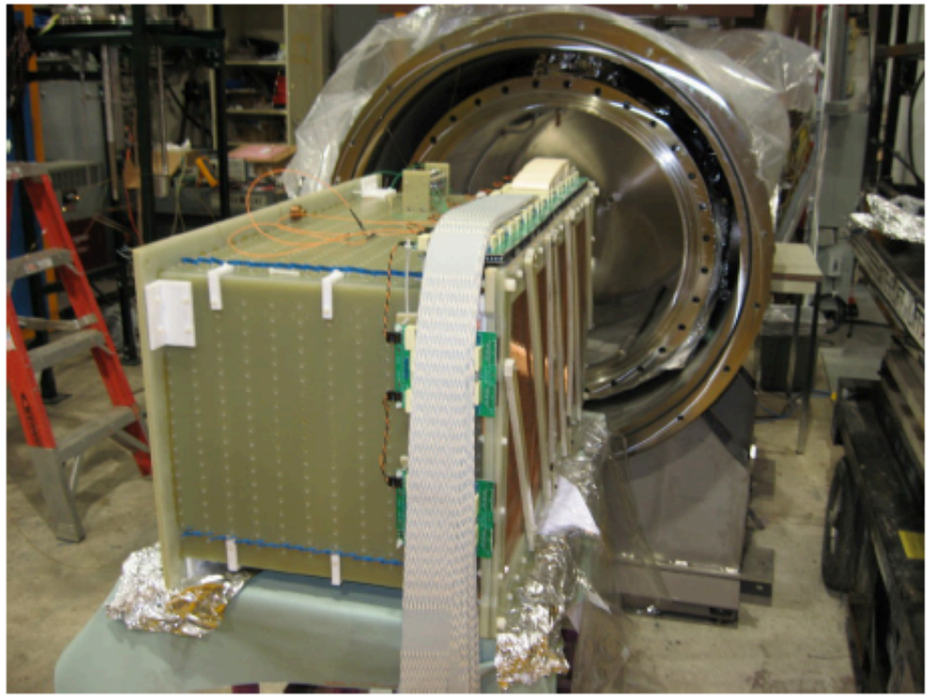
ArgoNeuT

ArgoNeuT Intro.

- ArgoNeuT (T-962) is a Liquid Argon Time Projection Chamber neutrino detector currently taking data just upstream of the MINOS near detector.
  - Gain experience with LArTPC technology.
  - Analyze a sample of (anti-)neutrino events.
  - Develop software for LArTPC simulation/reconstruction.

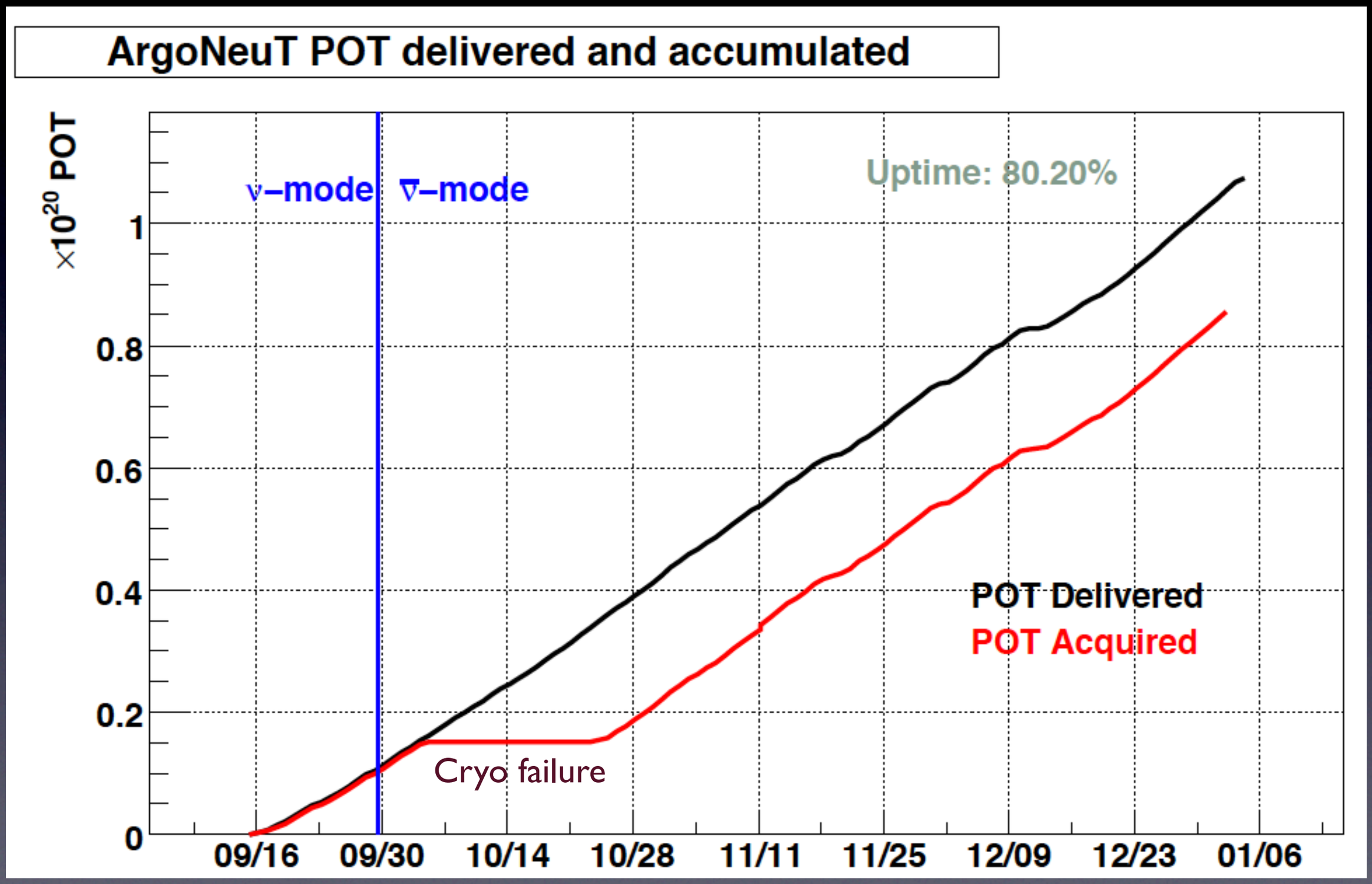


Schematic of NuMI experiments



TPC About to Enter Cryostat

Uptime

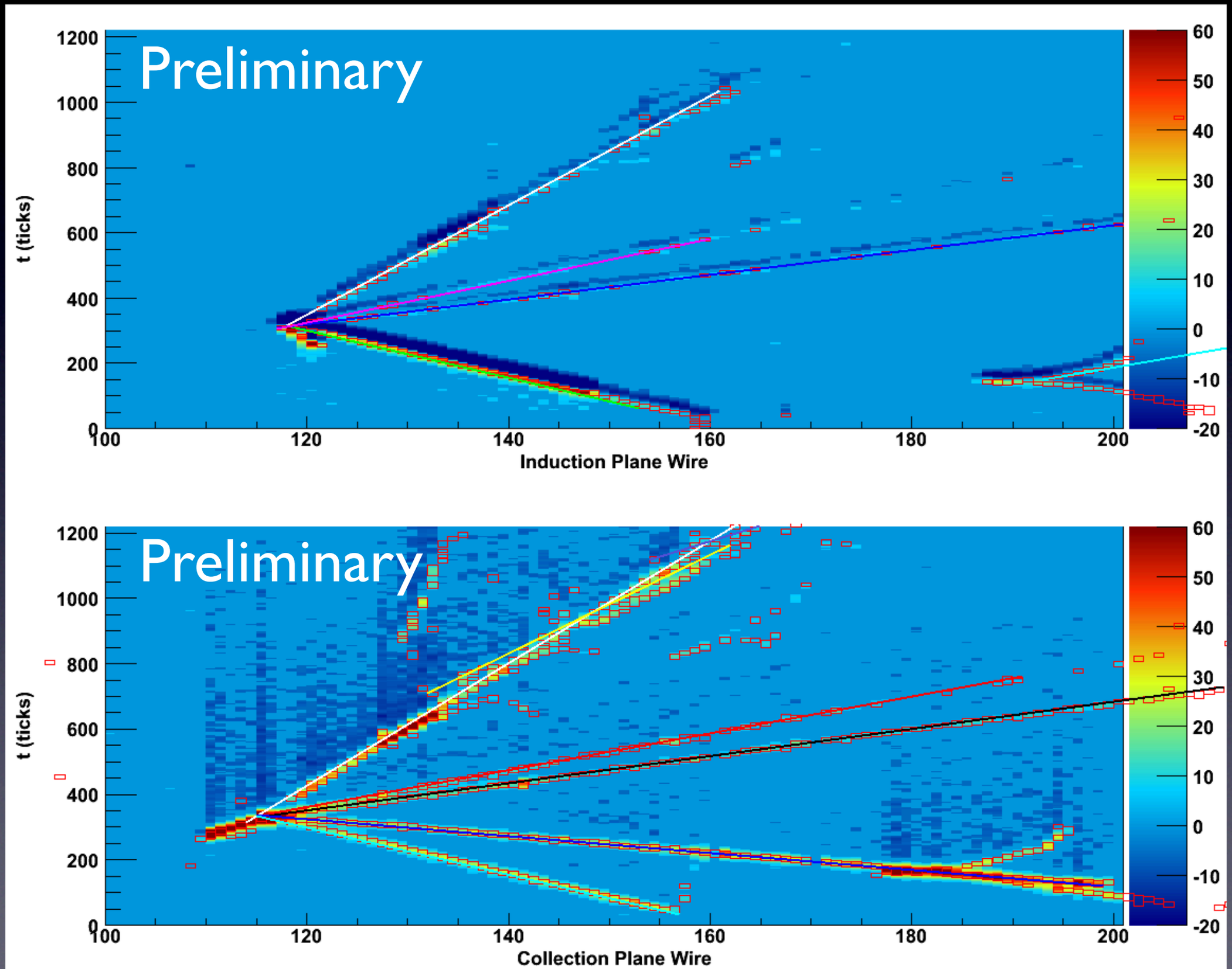


Thanks to the accelerator division for providing all the POT!

Physics Analysis

- With the ArgoNeuT detector running smoothly, the collaboration's effort has turned to data analysis.
- The ArgoNeuT collaboration is actively involved in developing LArTPC simulation and reconstruction techniques useful across many experiments (ArgoNeuT, MicroBooNE, LAr at DUSEL, ...).
- We work within the FMWK-based LArSoft framework.
  - FMWK is used by ArgoNeuT, MicroBooNE, and NOvA.
  - The use of a common framework enables sharing of interfaces to various software tools (GENIE, Geant4, root, etc.)

An example of our analysis code at work on a neutrino event



Plan

- ArgoNeuT's NuMI physics run ends on 2/22/2010.
- It will take about 1.5 weeks to disassemble and remove the detector from its present position.
- We are currently considering possible locations for future running (after some upgrades).